Remarks

The Office Action mailed October 8, 2004 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-22 are pending in this application. Claims 1-22 stand rejected.

The rejection of Claims 1-22 under 35 U.S.C. § 112, first paragraph, is respectfully traversed.

Applicants respectfully submit that the specification meets the requirements of Section 112, first paragraph. Specifically, Applicants respectfully submit that the specification, including the figures, would enable one skilled in the art to make and/or use the invention as described in the present patent application. Accordingly, Applicants respectfully request that the rejection of Claims 1-22 under Section 112, first paragraph, be withdrawn.

The Office Action asserts at page 2 that "the disclosure does not provide enough information to enable one skilled in the art to understand the process by which the models are combined so that order of the combination of models could be determined by one of ordinary skill in the art." Applicants respectfully traverse this assertion.

Applicants submit that the specification, including the figures, clearly describes determining a sequential order for combining the models using the targeting engine to define a target group . For example, the specification at page 3, line 7 to page 4, line 14 provides in relevant part as follows:

> ...targeting engine...takes data input and based upon modeling generates user interfaces...
>
> ...Targeting engine 22 streamlines the planning and execution of marketing programs and enables advanced customer analysis and segmentation capabilities. Targeting engine 22 further delivers information in a proactive and timely manner to enable a user to gain a competitive edge. Targeting engine 22 accomplishes these goals through the use of models.

> Models are predicted customer profiles based upon historic data. Any number of models can be combined as an OLAP cube which takes on the form of a multi dimensional structure to allow immediate views of dimensions including for example, risk, attrition, and profitability.
>
> Models are embedded within targeting engine 22 as scores associated with each customer, the scores can be combined to arrive at relevant customer metrics. In one embodiment, models used are grouped under two general categories, namely marketing and risk...
>
> Targeting engine 22 combines the embedded models described above to apply a score to each customer's account and create a marketing program to best use such marketing resources as mailing, telemarketing, and internet online by allocating resources based on consumer's real value. Targeting engine 22 maintains a multi-dimensional customer database based in part on customer demographics.

The originally filed specification also provides in relevant part at page 4, line 33 through page 5, line 3 as follows:

> Using information of this type, targeting engine 22 can generate a profitability analysis by combining models to determine a probability score for response, attrition and risk. Customers are rank ordered by probability of cross-sell response, attrition, risk, and net present value.

In other words, the originally filed specification, along with the figures, describes a targeting engine configured to combine multiple models to determine a relevant customer list. Specifically, the targeting engine is initially utilized to generate an initial customer list using a first model. The targeting engine is then utilized to generate a refined list using another model. As such, the targeting engine is utilized to target a marketing program to a list of potential customers by combining models until a relevant potential customer list is generated. Accordingly, although the term "sequential order" is not specifically used to refer to the operation of the targeting engine, Applicants submit that one skilled in the relevant art would understand that the targeting engine must combine the models in a specific sequential order to maximize the number of customers within the profitability section of the target group, and thus, the specific sequential order must be determined to operate the targeting engine as described herein.

Applicants submit that the specification, including the figures, clearly describes combining the models in the determined sequential order to define an initial customer group, the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability wherein projected profitability is based on at least one of a probable response by a customer to the marketing campaign, attrition of the customer, and risk associated with the customer. Specifically, as indicated above, although the term "sequential order" is not specifically used to refer to the operation of the targeting engine, Applicants submit that the targeting engine must combine models in a specific sequential order to maximize the number of customers within the profitability section of the target group.

Applicants respectfully submit that the specification, including the figures, would enable one skilled in the art to make and/or use the invention as described in the present patent application. Accordingly, Applicants respectfully request that the rejection of Claims 1-22 under Section 112, first paragraph, be withdrawn.

For the reasons set forth above, Applicants respectfully request that the rejection of Claims 1-22 under Section 112, first paragraph, be withdrawn.

The rejection of Claims 1-22 under 35 U.S.C. § 101 as being directed to non-statutory subject matter is respectfully traversed.

The Office Action asserts at page 3 that "the method of evaluating marketing campaign data and evaluating the performance of a model does not specifically use technology to carry out any of the non-trivial claimed method steps...For example, the steps of claim 1...may be performed manually or without the aid of any technology." Applicants respectfully traverse this assertion. Applicants have amended Claim 1.

More specifically, Applicants submit that the claims of the present patent application are directed to practical applications in the technological arts. "Any sequence of operational steps can constitute a process within the meaning of the Patent Act so long as it is part of the technological arts." *In re Musgrave*, 431 F.2d 882 (C.C.P.A. 1970). For example, independent

Claim 1 is directed to a method for evaluating marketing campaign data wherein the data is in the form of database scores, stored procedures, and On Line Analytical Processing (OLAP) multidimensional structures. Applicants submit that evaluating marketing campaign data is a useful process that is considered to be within "the technological arts".

One specific example of such a method implementation is a computer with a processor programmed to at least one of provide a plurality of analytic models, embed the models within a targeting engine, determine a sequential order for combining the models using the targeting engine, combine the models in the determined sequential order using the targeting engine to generate marketing campaign data, evaluate the model combination using structures that segment gains charts to discover where the model combination is under performing, evaluate a performance of the model combination over time, and define user trends. While the claims are not limited to the specific examples related to a computer with a programmed processor, the claims need not be so restricted to satisfy the requirement of Section 101.

Applicants further traverse the assertion included in the Office Action that Claims 1-22 are directed to non-statutory subject matter under Section 101 in light of the "Examination Guidelines for Computer-Related Inventions". The Examination Guidelines for Computer-Related Inventions provides in relevant part as follows:

> In order to determine whether the claim is limited to a practical application of an abstract idea, Office personnel must analyze the claim as a whole, in light of the specification, to understand what subject matter is being manipulated and how it is being manipulated. During this procedure, Office personnel must evaluate any statements of intended use or field of use, any data gathering step and any post-manipulation activity....Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under § 101. Further, when such a rejection is made, Office personnel must expressly state how the language of the claims has been interpreted to support the rejection.

Applicants respectfully submit that Claim 1 is limited to a practical application in the technological arts. Furthermore, Applicant respectfully submits that the Office Action does not expressly state how the language of Claim 1 supports the Section 101 rejection.

Claim 1 is a method directed to "evaluating marketing campaign data, the data being in the form of database scores, stored procedures, and On Line Analytical Processing (OLAP) multidimensional structures". Thus, Applicants submit that Claim 1 is directed to a useful process that is considered to be within "the technological arts". Furthermore, Claim 1 recites a "method of evaluating marketing campaign data, the data being in the form of database scores, stored procedures, and On Line Analytical Processing (OLAP) multidimensional structures, said method comprising the steps of...providing a plurality of analytic models...embedding the models within a targeting engine...determining a sequential order for combining the models using the targeting engine...combining the models in the determined sequential order using the targeting engine to generate marketing campaign data...." Thus, Claim 1 uses a targeting engine to perform certain steps of the process. Applicants respectfully submit that one of ordinary skill in the art would understand that the targeting engine recited in Claim 1 is technology. Accordingly, Claim 1 is directed to a practical application in the technological arts.

Dependent Claims 2-8 and 21 depend from independent Claim 1, and these dependent Claims are submitted to satisfy the requirements of Section 101 for the same reasons set forth above with respect to independent Claim 1.

The Office Action further asserts at page 3 that "claim 9 teaches a customer database, but while the customer database does reside on a server as recited in the specification on page 3, this use of a customer database is a nominal recitation of technology...A graphical user interface is also claimed and is recited on page 6 of the specification and in figures 3-8, but while the graphical user interface is itself technology, it is a nominal recitation of technology in that the data could be placed into the models without the use of this technology...A targeting engine, which is a combination of models, is also claimed and recited on page 4 of the specification...However, the applicant does not recite the use of technology as part of the targeting engine...." Applicants respectfully traverse these assertions.

More specifically, Applicants respectfully traverse the assertion that the customer database and the graphical user interface recited in Claim 9 are "nominal" technology. Merely

suggesting that an invention could be performed without certain claimed technology or that the invention could be performed with technology that is different than the technology claimed does not somehow render the claimed technology "nominal". Such a position ignores the actual claim language of the patent application. Moreover, Applicants submit that the two-prong test for Section 101 as set forth in the Office Action does not include a "nominal" element (i.e., a determination of whether the claimed technology is nominal or not) with respect to technology recited in a claim. Accordingly, Applicants respectfully submit that the Section 101 rejection of Claims 9-19 and 22 is an invalid Section 101 rejection.

Furthermore, Applicants traverse the assertion that the targeting engine "is a combination of models" and that the "applicant does not recite the use of technology as part of the targeting engine". As stated above, the targeting engine is technology. The targeting engine "combines the embedded models described above to apply a score to each customer's account and create a marketing program to best use such marketing resources...." (page 4, lines 10-12). Applicants have also amended Claim 9 to recite a "system for evaluating marketing campaign data, said system comprising...a customer database further comprising historical campaign results...a graphical user interface for presentation of trend analysis data...and a targeting engine coupled to the database and the graphical user interface, the targeting engine embedded with a plurality of analytic models...." Clearly, the system recited in Claim 9 includes technology and the technology is not "nominal". Accordingly, Claim 9 is directed to a practical application in the technological arts.

Dependent Claims 10-19 and 22 depend from independent Claim 9, and these dependent Claims are submitted to satisfy the requirements of Section 101 for the same reasons set forth above with respect to independent Claim 9.

With respect to Claim 20, for the same reasons set forth above in Claim 1, Applicants respectfully submit that Claim 20 satisfies Section 101. For example, Claim 20 is a method directed to "evaluating marketing campaign data, the data being in the form of customer lists, database scores, stored procedures, and On Line Analytical Processing (OLAP)

multidimensional structures". Thus, Applicants submit that Claim 20 is directed to a useful process that is considered to be within "the technological arts". Furthermore, Claim 20 recites a "method of evaluating marketing campaign data, the data being in the form of customer lists, database scores, stored procedures, and On Line Analytical Processing (OLAP) multidimensional structures, said method comprising the steps of...storing in a database historical data for a plurality of potential customers...providing a plurality of analytic models...embedding the models within a targeting engine...determining a sequential order for combining the models using the targeting engine by applying each model to be combined to each of the plurality of potential customers included in the database...combining the models in the determined sequential order using the targeting engine to generate marketing campaign data...." Thus, Claim 20 uses a targeting engine to perform certain steps of the process. Applicants respectfully submit that one of ordinary skill in the art would understand that the targeting engine recited in Claim 20 is technology. Accordingly, Claim 20 is directed to a practical application in the technological arts.

For at least the reasons set forth above, Applicants respectfully request that the Section 101 rejection of Claims 1-22 be withdrawn.

The rejection of Claims 1-22 under 35 U.S.C. § 103(a) as being unpatentable over *Building Data Mining Applications for CRM*, Alex Berson et al., (December 1999) (referred to herein as "Berson") in view of Lee et al. (U.S. Patent No. 6,542,894) ("Lee") is respectfully traversed.

Applicants respectfully submit that neither Berson nor Lee, considered alone or in combination, describe or suggest the claimed invention. As discussed below, neither Berson nor Lee, considered alone or in combination, describe or suggest a method of evaluating marketing campaign data that includes providing a plurality of analytic models including risk models, attrition models, and profitability models, wherein each model is a statistical analysis for predicting a behavior of a prospective customer, and wherein a risk model predicts a likelihood of whether the prospective customer will at least one of pay on time, be delinquent with a

payment, and declare bankruptcy, an attrition model predicts a likelihood of whether the prospective customer will remain a customer or become a customer of a competitor, and a profitability model predicts a net present value of the prospective customer.

Moreover, neither Berson nor Lee, considered alone or in combination, describe or suggest a method of evaluating marketing campaign data that includes embedding the models within a targeting engine, determining a sequential order for combining the models using the targeting engine wherein the model combination includes a risk model, an attrition model, and a profitability model, and combining the models in the determined sequential order using the targeting engine to generate marketing campaign data including a target group by defining an initial customer group, wherein the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability wherein projected profitability is based on at least one of a probable response by a customer to the marketing campaign, attrition of the customer, and risk associated with the customer.

Furthermore, neither Berson nor Lee, considered alone or in combination, describe or suggest a customer group list that includes a high profit end, a moderate profit section, and a low profit end, wherein the high profit end includes customers having a highest projected profitability, the low profit end includes customers having a lowest projected profitability, and the moderate profit section includes a profitability baseline, wherein the determined sequential order provides a greater number of customers included between the high profit end and the profitability baseline than any other sequential order of combining the models, and wherein the target group includes the customers included between the high profit end of the list and the profitability baseline.

Berson is a book that discusses data mining applications for customer relationship management. Berson describes the actual data mining process to include three (3) distinct steps when performing a cross-sell analysis: (1) modeling of individual behaviors; (2) scoring data with predictive models; and (3) optimization of the scoring matrices. Berson describes modeling as the process whereby data mining algorithms analyze the data, creating mathematical functions

(the models) that can be used to predict customer behavior. Berson further describes using these models for a cross-selling offer wherein there will be one model for each cross-selling offer. Once the cross-selling models have been generated, each can be applied to new customer data in order to make predictions about those customers. The scores are simply the outputs of the models.

For example, Berson describes a cross-selling effort that includes selling a new mortgage, refinancing a mortgage, or selling a second mortgage. Because there are three different cross-sell offers, there are also three different scores for each customer. These scores are then used to produce a matrix of scores with one row for each customer and one column for each cross-sell score (i.e., new mortgage, refinance, and second mortgage). The final step of the process is the optimization of the scoring matrix, which includes selecting which of the multiple offers will be made to each customer.

Lee describes a method for modeling expected behavior that includes segmenting a dataset (50), and then using a plurality of models (60a-60i) to score the records (51) of dataset (50). The multiple models (60a-60i) are used to model respective, corresponding segments (52a-52i). The data segments (52a-52i) are built using one or more variables that are important in the single model, and which may vary from model to model. The individual multiple models (60a-60i) are designed and tested for the respective one of the data segments (52a-52i). The results (64a-64i) of modeling each of the data segments are fed to results combining software (32). The results (64a-64i) of modeling each of the data segments are then combined by combining software (32).

Claim 1 recites a method of evaluating marketing campaign data, the data being in the form of database scores, stored procedures, and On Line Analytical Processing (OLAP) multidimensional structures, the method includes "providing a plurality of analytic models including risk models, attrition models, and profitability models, each model is a statistical analysis for predicting a behavior of a prospective customer, wherein a risk model predicts a likelihood of whether the prospective customer will at least one of pay on time, be delinquent

with a payment, and declare bankruptcy, an attrition model predicts a likelihood of whether the prospective customer will remain a customer or become a customer of a competitor, a profitability model predicts a net present value of the prospective customer...embedding the models within a targeting engine...determining a sequential order for combining the models using the targeting engine, the model combination includes a risk model, an attrition model, and a profitability model...combining the models in the determined sequential order using the targeting engine to generate marketing campaign data including a target group by defining an initial customer group, the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability wherein projected profitability is based on at least one of a probable response by a customer to the marketing campaign, attrition of the customer, and risk associated with the customer, the list includes a high profit end, a moderate profit section, and a low profit end, the high profit end including customers having a highest projected profitability, the low profit end including customers having a lowest projected profitability, the moderate profit section including a profitability baseline, wherein the determined sequential order provides a greater number of customers included between the high profit end and the profitability baseline than any other sequential order of combining the models, the target group includes the customers included between the high profit end of the list and the profitability baseline...evaluating the model combination using structures that segment gains charts to discover where the model combination is under performing...evaluating a performance of the model combination over time...and defining user trends."

Neither Berson nor Lee, considered alone or in combination, describe or suggest a method of evaluating marketing campaign data as recited in Claim 1. More specifically, neither Berson nor Lee, considered alone or in combination, describe or suggest a method of evaluating marketing campaign data that includes providing a plurality of analytic models including risk models, attrition models, and profitability models, wherein each model is a statistical analysis for predicting a behavior of a prospective customer, and wherein a risk model predicts a likelihood of whether the prospective customer will at least one of pay on time, be delinquent with a payment, and declare bankruptcy, an attrition model predicts a likelihood of whether the

prospective customer will remain a customer or become a customer of a competitor, and a profitability model predicts a net present value of the prospective customer.

Moreover, neither Berson nor Lee, considered alone or in combination, describe or suggest embedding the models within a targeting engine, determining a sequential order for combining the models using the targeting engine wherein the model combination includes a risk model, an attrition model, and a profitability model, and combining the models in the determined sequential order using the targeting engine to generate marketing campaign data including a target group by defining an initial customer group, wherein the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability wherein projected profitability is based on at least one of a probable response by a customer to the marketing campaign, attrition of the customer, and risk associated with the customer.

More specifically, neither Berson nor Lee, considered alone or in combination, describe or suggest a method of evaluating marketing campaign data that includes determining a sequential order for combining models using the targeting engine wherein the model combination includes a risk model, an attrition model, and a profitability model, and combining the models in the determined sequential order.

Furthermore, neither Berson nor Lee, considered alone or in combination, describe or suggest a customer group list that includes a high profit end, a moderate profit section, and a low profit end, wherein the high profit end includes customers having a highest projected profitability, the low profit end includes customers having a lowest projected profitability, and the moderate profit section includes a profitability baseline, wherein the determined sequential order provides a greater number of customers included between the high profit end and the profitability baseline than any other sequential order of combining the models, and wherein the target group includes the customers included between the high profit end of the list and the profitability baseline.

Additionally, neither Berson nor Lee, considered alone or in combination, describe or suggest evaluating the model combination using structures that segment gains charts to discover where the model combination is under performing, and evaluating a performance of the model combination over time.

Rather, Berson describes data mining applications for customer relationship management wherein the actual data mining process includes three (3) distinct steps when performing a cross-sell analysis: (1) modeling of individual behaviors; (2) scoring data with predictive models; and (3) optimization of the scoring matrices; and Lee describes a method for modeling expected behavior that includes segmenting a dataset, scoring the records included in the dataset using a plurality of models wherein a model scores a respective, corresponding segment, and then the results of modeling each of the data segments are fed to a results combining software.

The Office Action suggests at page 5 that Berson "teaches a method of evaluating marketing campaign data...said method comprising the steps of...providing a plurality of analytic models including marketing models...combining the models to generate marketing campaign data". However, Berson describes at pages 268-269 the "process of modeling can be broken down into subprocesses, each of which involves creating models for each of the different cross-sell offers." Berson further describes at page 269 the analysis of each offer as independent of the other cross-sell offers. Berson also provides at page 268 that the models used for each cross-sell offer is intended to predict the probability of whether the customer will purchase a specific mortgage product. The models are then "combined" by merely listing the output of each model separately in a matrix. In other words, Berson quite specifically describes creating a model for each of the different cross-sell offers wherein the models predict whether the customer will purchase a specific mortgage product.

Applicants submit, however, that Berson does not describe or suggest providing a plurality of analytic models including risk models, attrition models, and profitability models, wherein each model is a statistical analysis for predicting a behavior of a prospective customer, and wherein a risk model predicts a likelihood of whether the prospective customer will at least

one of pay on time, be delinquent with a payment, and declare bankruptcy, an attrition model predicts a likelihood of whether the prospective customer will remain a customer or become a customer of a competitor, and a profitability model predicts a net present value of the prospective customer.

In fact, Berson teaches away from providing a plurality of analytic models including risk models, attrition models, and profitability models, and combining the models in a determined sequential order wherein the model combination includes a risk model, an attrition model, and a profitability model to generate a target group. Rather, Berson merely describes in one chapter (Chapter 11) using a model for each different cross-sell offer to predict whether the customer will purchase the offers made, and then in a separate chapter (Chapter 12) Berson discusses using CART to produce a model to predict "churn". However, Berson does not describe or suggest combining these models – other than merely listing the outputs from each of the different cross-sell offers in a matrix. Moreover, Berson does not describe or suggest combining models in a determined sequential order wherein the model combination includes a risk model, an attrition model, and a profitability model to generate a target group.

The Office Action acknowledges at page 6 that Berson does not teach "combining the models sequentially". Applicants respectfully submit that Berson does not describe or suggest determining a sequential order for combining the models using the targeting engine wherein the model combination includes a risk model, an attrition model, and a profitability model, and combining the models in the determined sequential order using the targeting engine to generate marketing campaign data including a target group by defining an initial customer group, wherein the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability. More specifically, Berson does not describe or suggest an initial customer group satisfying each of the combined models. Rather, Berson teaches applying individual models separately for each of the different cross-sell offers. Accordingly, Berson does not teach combining models, and does not teach each customer having to satisfy each of the combined models.

Applicants also submit that Berson does not describe or teach a determined sequential order that provides a greater number of customers included between a high profit end and a profitability baseline than any other sequential order of combining the models. Because Berson does not teach combining models in a determined sequential order, which is acknowledged by the Office Action, Berson cannot teach a determined sequential order or combing the models that provides a greater number of customers included between a high profit end and a profitability baseline as compared to any other sequential order of combining the models.

Moreover, in contrast to what is asserted in the Office Action, Lee does not describe or teach combining models in a determined sequential order as recited in the present claims. The Office Action suggests at pages 6-7 that "Lee teaches the combining of models in a sequential order ('computer program product residing on a computer readable medium for modeling expected behavior includes instructions for causing a computer to score with a plurality of models records of a dataset that is segmented into a like plurality of data segments and combine results obtained from scoring the multiple models into a signal representation of the expected behavior')...and ('the results combining software can process results in parallel, as shown, or serially from running the segmented, multiple modeling process'...), where serially is sequentially." Applicants respectfully traverse this assertion.

More specifically, Applicants respectfully submit that processing results (i.e., scores) from a modeling process in parallel or serially does not describe or teach determining a sequential order for combining the models, and combining the models in the determined sequential order to generate marketing campaign data including a target group. In contrast to what is asserted in the Office Action, Lee does not describe or teach determining a sequential order for combining the models, and combining the models in the determined sequential order to generate marketing campaign data including a target group. Rather, Lee describes combining the results from a segmented, multiple modeling process. Lee provides at Col. 5, line 66 to Col. 6, line 56 as follows:

> The results combining software 32 includes a process 34 that sorts 82 records in descending order based on the scores provided from executing the models 60a-60d on the data segments 52a-52d....
>
> The results combining software 32 selects 86 a number of bins for each lift chart to be combined. The number of bins can be selected using any suitable criteria. For example, the number of bins can be an absolute value, can be based upon the number of responders, and so forth. The results combining software 32 uses the number of bins selected for each model execution to produce 70 a summary lift chart that combines the results from the models into a single, summary lift chart taking into consideration the response rates that were generated for all model executions.

In other words, Lee describes a results combining software (32) that processes results from a modeling process in parallel or serially which includes using the combining software (32) to produce (70) a summary lift chart that combines the results from the models into a single, summary lift chart. Lee does not describe or suggest determining a sequential order for combining models, and combining the models in the determined sequential order to generate a target group. Rather, Lee describes combining the results, either in parallel or serially, of a segmented, multiple modeling process.

Furthermore, Lee does not describe or suggest a method of evaluating marketing campaign data that includes providing a plurality of analytic models including risk models, attrition models, and profitability models, wherein each model is a statistical analysis for predicting a behavior of a prospective customer, and wherein a risk model predicts a likelihood of whether the prospective customer will at least one of pay on time, be delinquent with a payment, and declare bankruptcy, an attrition model predicts a likelihood of whether the prospective customer will remain a customer or become a customer of a competitor, and a profitability model predicts a net present value of the prospective customer, and determining a sequential order for combining the models wherein the model combination includes a risk model, an attrition model, and a profitability model. More specifically, Lee does not describe or suggest combining a risk model, an attrition model, and a profitability model.

Rather, Lee describes a method for modeling expected behavior using data segmentation and multiple models. More specifically, Lee describes the method at col. 3, line 63 to col. 4, line 18 as follows:

> In many real world modeling problems, often a single variable or set of input variables has a significantly strong influence on predicting behavioral outcomes. The data mining software 30 described below allows for execution of multiple models based on selective segmentation of data using models designed for and trained with the particular data segments. The data mining software includes the results combining software 32 that combines the results from these multiple segmented-model executions into a single, summary representation of the results.
>
> Preferably, the multiple segmented-model executions are combined into a single, summary representation of the results that maintains an order of results within a model execution while arranging results in descending order among different model executions.
>
> The results combining software 32 provides an optimal combination of results from multiple models. The results combining software 32 can render the results in any of a number of ways to the user, for example, the model scores, a summary RMS error and R^2 values, or a confusion matrix, or summary gains table or summary lift chart can be used. The results combining software 32 will describe the generation of a summary lift chart.

In other words, Lee describes a method for modeling expected behavior that includes segmenting a dataset, and then scoring the records included in the dataset using a plurality of models wherein each segment is scored using a model that is designed and tested for that particular segment. The results of modeling each of the data segments are then combined by a combining software.

In contrast to the present invention, Lee does not describe or teach combining models in a determined sequential order to generate marketing campaign data including a target group by defining an initial customer group, wherein the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability. Rather, the results in Lee are from combining the results of modeling each of the data segments. Thus, the results in Lee do not satisfy each of the applied models because in Lee each model is only applied to a single data segment. Accordingly, Lee does not describe or teach combining models in a determined sequential order to define an initial customer group that includes a list of

customers satisfying each of the combined models. Accordingly, Applicants respectfully submit that Claim 1 is patentable over Berson in view of Lee.

Claims 2-8 and 21 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 2-8 and 21 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2-8 and 21 likewise are patentable over Berson in view of Lee.

Claim 9 recites a system for evaluating marketing campaign data, the system includes a customer database having historical campaign results, a graphical user interface for presentation of trend analysis data, and "a targeting engine coupled to the database and the graphical user interface, the targeting engine embedded with a plurality of analytic models including risk models, attrition models and profitability models, each model is a statistical analysis for predicting a behavior of a prospective customer, wherein a risk model predicts a likelihood of whether the prospective customer will at least one of pay on time, be delinquent with a payment, and declare bankruptcy, an attrition model predicts a likelihood of whether the prospective customer will remain a customer or become a customer of a competitor, a profitability model predicts a net present value of the prospective customer, wherein the targeting engine is configured to...determine a sequential order for combining the models, the model combination includes a risk model, an attrition model, and a profitability model...combine the models in the determined sequential order to generate marketing campaign data including a target group by defining an initial customer group, the initial customer group includes a list of customers satisfying each of said combined models and rank ordered by projected profitability wherein projected profitability is based on at least one of a probable response by a customer to the marketing campaign, attrition of the customer, and risk associated with the customer, the list includes a high profit end, a moderate profit section, and a low profit end, the high profit end including customers having a highest projected profitability, the low profit end including customers having a lowest projected profitability, the moderate profit section including a profitability baseline, wherein the determined sequential order provides a greater number of customers included between the high profit end and the profitability baseline than any other

sequential order of combining the models, the target group includes the customers included between the high profit end of the list and the profitability baseline...evaluate the model combination using structures that segment gains charts to discover where the model combination is under performing...evaluate a performance of the model combination over time...and define trends relating to the marketing campaign data."

Neither Berson nor Lee, considered alone or in combination, describe or suggest a system as recited in Claim 9. More specifically, neither Berson nor Lee, considered alone or in combination, describe or suggest a system for evaluating marketing campaign data that includes a targeting engine coupled to a database and a graphical user interface, wherein the targeting engine is embedded with a plurality of analytic models including risk models, attrition models and profitability models, wherein each model is a statistical analysis for predicting a behavior of a prospective customer, and wherein a risk model predicts a likelihood of whether the prospective customer will at least one of pay on time, be delinquent with a payment, and declare bankruptcy, an attrition model predicts a likelihood of whether the prospective customer will remain a customer or become a customer of a competitor, a profitability model predicts a net present value of the prospective customer.

Moreover, neither Berson nor Lee, considered alone or in combination, describe or suggest a targeting engine configured to determine a sequential order for combining the models wherein the model combination includes a risk model, an attrition model, and a profitability model, and combine the models in the determined sequential order to generate marketing campaign data including a target group by defining an initial customer group, wherein the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability wherein projected profitability is based on at least one of a probable response by a customer to the marketing campaign, attrition of the customer, and risk associated with the customer.

More specifically, neither Berson nor Lee, considered alone or in combination, describe or suggest a targeting engine configured to determine a sequential order for combining the

models wherein the model combination includes a risk model, an attrition model, and a profitability model.

Furthermore, neither Berson nor Lee, considered alone or in combination, describe or suggest a customer group list having a high profit end, a moderate profit section, and a low profit end, wherein the high profit end includes customers having a highest projected profitability, the low profit end includes customers having a lowest projected profitability, and the moderate profit section includes a profitability baseline, wherein the determined sequential order provides a greater number of customers included between the high profit end and the profitability baseline than any other sequential order of combining the models, and wherein the target group includes the customers included between the high profit end of the list and the profitability baseline.

Additionally, neither Berson nor Lee, considered alone or in combination, describe or suggest a targeting engine configured to evaluate the model combination using structures that segment gains charts to discover where the model combination is under performing, and evaluate a performance of the model combination over time.

Rather, Berson describes data mining applications for customer relationship management wherein the actual data mining process includes three (3) distinct steps when performing a cross-sell analysis: (1) modeling of individual behaviors; (2) scoring data with predictive models; and (3) optimization of the scoring matrices; and Lee describes a method for modeling expected behavior that includes segmenting a dataset, scoring the records included in the dataset using a plurality of models wherein a model scores a respective, corresponding segment, and then the results of modeling each of the data segments are fed to a results combining software.

Berson describes at pages 268-269 the "process of modeling can be broken down into subprocesses, each of which involves creating models for each of the different cross-sell offers." Berson further describes at page 269 the analysis of each offer as independent of the other cross-sell offers. Berson also provides at page 268 that the models used for each cross-sell offer is intended to predict the probability of whether the customer will purchase a specific mortgage

product. The models are then "combined" by merely listing the output of each model separately in a matrix.

Applicants submit, however, that Berson does not describe or suggest a system for evaluating marketing campaign data that includes a targeting engine embedded with a plurality of analytic models including risk models, attrition models and profitability models, wherein each model is a statistical analysis for predicting a behavior of a prospective customer, and wherein a risk model predicts a likelihood of whether the prospective customer will at least one of pay on time, be delinquent with a payment, and declare bankruptcy, an attrition model predicts a likelihood of whether the prospective customer will remain a customer or become a customer of a competitor, and a profitability model predicts a net present value of the prospective customer.

In fact, Berson teaches away from providing a plurality of analytic models including risk models, attrition models, and profitability models, and combining the models in a determined sequential order wherein the model combination includes a risk model, an attrition model, and a profitability model to generate a target group. Rather, Berson merely describes in one chapter (Chapter 11) using a model for each different cross-sell offer to predict whether the customer will purchase the offers made, and then in a separate chapter (Chapter 12) Berson discusses using CART to produce a model to predict "churn". However, Berson does not describe or suggest combining these models. Moreover, Berson does not describe or suggest combining models in a determined sequential order wherein the model combination includes a risk model, an attrition model, and a profitability model to generate a target group.

The Office Action acknowledges at page 6 that Berson does not teach "combining the models sequentially". Applicants respectfully submit that Berson does not describe or suggest determining a sequential order for combining the models wherein the model combination includes a risk model, an attrition model, and a profitability model, and combining the models in the determined sequential order to generate marketing campaign data including a target group by defining an initial customer group, wherein the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability.

More specifically, Berson does not describe or suggest an initial customer group satisfying each of the combined models. Rather, Berson teaches applying individual models separately for each of the different cross-sell offers. Accordingly, Berson does not teach combining models, and does not teach each customer having to satisfy each of the combined models.

Applicants also submit that Berson does not describe or teach a determined sequential order that provides a greater number of customers included between a high profit end and a profitability baseline than any other sequential order of combining the models. Because Berson does not teach combining models in a determined sequential order, which is acknowledged by the Office Action, Berson cannot teach a determined sequential order or combing the models that provides a greater number of customers included between a high profit end and a profitability baseline as compared to any other sequential order of combining the models.

Moreover, in contrast to what is asserted in the Office Action, Lee does not describe or teach combining models in a determined sequential order as recited in the present claims. The Office Action suggests at pages 6-7 that "Lee teaches the combining of models in a sequential order ('computer program product residing on a computer readable medium for modeling expected behavior includes instructions for causing a computer to score with a plurality of models records of a dataset that is segmented into a like plurality of data segments and combine results obtained from scoring the multiple models into a signal representation of the expected behavior')...and ('the results combining software can process results in parallel, as shown, or serially from running the segmented, multiple modeling process'...), where serially is sequentially." Applicants respectfully traverse this assertion.

More specifically, Applicants respectfully submit that processing results (i.e., scores) from a modeling process in parallel or serially does not describe or teach determining a sequential order for combining the models, and combining the models in the determined sequential order to generate marketing campaign data including a target group. In contrast to what is asserted in the Office Action, Lee does not describe or teach determining a sequential order for combining the models, and combining the models in the determined sequential order to

generate marketing campaign data including a target group. Rather, Lee describes combining the results from a segmented, multiple modeling process. Applicants submit that combining the results, either in parallel or serially, of a segmented, multiple modeling process does not describe or teach determining a sequential order for combining models, and combining the models in the determined sequential order to generate a target group.

Furthermore, Lee does not describe or suggest combining a risk model, an attrition model, and a profitability model.

As discussed above, Lee does not describe or teach combining models in a determined sequential order as recited in the present claims. Rather, Lee describes a method for modeling expected behavior that includes segmenting a dataset, and then scoring the records included in the dataset using a plurality of models wherein each segment is scored using a model that is designed and tested for that particular segment. The results of modeling each of the data segments are then combined by a combining software. In contrast to the present invention, Lee does not describe or teach combining models in a determined sequential order to generate marketing campaign data including a target group by defining an initial customer group, wherein the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability. Rather, the results in Lee are from combining the results of modeling each of the data segments. Thus, the results in Lee do not satisfy each of the applied models because in Lee each of the models is only applied to a single data segment. Accordingly, Lee does not describe or teach combining models in a determined sequential order to define an initial customer group that includes a list of customers satisfying each of the combined models.

Lee also does not describe or teach an initial customer group list that includes a high profit end, a moderate profit section, and a low profit end, wherein the high profit end includes customers having a highest projected profitability, the low profit end includes customers having a lowest projected profitability, and the moderate profit section includes a profitability baseline, wherein the determined sequential order provides a greater number of customers included

between the high profit end and the profitability baseline than any other sequential order of combining the models, and wherein the target group includes the customers included between the high profit end of the list and the profitability baseline. Accordingly, Applicants respectfully submit that Claim 9 is patentable over Berson in view of Lee.

Claims 11-19 and 22 depend, directly or indirectly, from independent Claim 9. When the recitations of Claims 11-19 and 22 are considered in combination with the recitations of Claim 9, Applicants submit that dependent Claims 11-19 and 22 likewise are patentable over Berson in view of Lee.

Claim 20 recites a method of evaluating marketing campaign data, the data being in the form of customer lists, database scores, stored procedures, and On Line Analytical Processing (OLAP) multidimensional structures, the method includes "storing in a database historical data for a plurality of potential customers including for each potential customer at least one of an age, a gender, a marital status, an income, a transaction history, and a transaction measure...providing a plurality of analytic models including marketing and risk models, attrition models, and profitability models, each model is a statistical analysis for predicting a behavior of a prospective customer, wherein a risk model predicts a likelihood of whether the prospective customer will at least one of pay on time, be delinquent with a payment, and declare bankruptcy, an attrition model predicts a likelihood of whether the prospective customer will remain a customer or become a customer of a competitor, a profitability model predicts a net present value of the prospective customer...embedding the models within a targeting engine...determining a sequential order for combining the models using the targeting engine by applying each model to be combined to each of the plurality of potential customers included in the database, the model combination includes a risk model, an attrition model, and a profitability model...combining the models in the determined sequential order using the targeting engine to generate marketing campaign data including a target group by defining an initial customer group, the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability wherein projected profitability is based on at least one of a probable response by a customer to the marketing campaign, attrition of the customer, and risk associated

with the customer, the list includes a high profit end, a moderate profit section, and a low profit end, the high profit end including customers having a highest projected profitability, the low profit end including customers having a lowest projected profitability, the moderate profit section including a profitability baseline, wherein the determined sequential order provides a greater number of customers included between the high profit end and the profitability baseline than any other sequential order of combining the models, the target group includes the customers included between the high profit end of the list and the profitability baseline...generating gains charts by comparing customers included in the target group to corresponding marketing campaign results...evaluating the model combination by using structures that segment gains charts to identify where the model combination is under performing...evaluating over time and over a plurality of marketing campaigns at least one of a performance of the model combination...and identifying user defined trends including identifying trends within segments by analyzing structures of a plurality of marketing campaigns in chronological order."

Neither Berson nor Lee, considered alone or in combination, describe or suggest a method as recited in Claim 20. More specifically, neither Berson nor Lee, considered alone or in combination, describe or suggest a method that includes storing in a database historical data for a plurality of potential customers including for each potential customer at least one of an age, a gender, a marital status, an income, a transaction history, and a transaction measure, and providing a plurality of analytic models including marketing and risk models, attrition models, and profitability models, wherein each model is a statistical analysis for predicting a behavior of a prospective customer, and wherein a risk model predicts a likelihood of whether the prospective customer will at least one of pay on time, be delinquent with a payment, and declare bankruptcy, an attrition model predicts a likelihood of whether the prospective customer will remain a customer or become a customer of a competitor, and a profitability model predicts a net present value of the prospective customer.

Moreover, neither Berson nor Lee, considered alone or in combination, describe or suggest a method that includes determining a sequential order for combining the models using the targeting engine by applying each model to be combined to each of the plurality of potential

customers included in the database, the model combination includes a risk model, an attrition model, and a profitability model, and combining the models in the determined sequential order using the targeting engine to generate marketing campaign data including a target group by defining an initial customer group, wherein the initial customer group includes a list of customers satisfying each of the combined models and rank ordered by projected profitability wherein projected profitability is based on at least one of a probable response by a customer to the marketing campaign, attrition of the customer, and risk associated with the customer.

Furthermore, neither Berson nor Lee, considered alone or in combination, describe or suggest an initial customer group list that includes a high profit end, a moderate profit section, and a low profit end, wherein the high profit end includes customers having a highest projected profitability, the low profit end includes customers having a lowest projected profitability, and the moderate profit section includes a profitability baseline, wherein the determined sequential order provides a greater number of customers included between the high profit end and the profitability baseline than any other sequential order of combining the models, and wherein the target group includes the customers included between the high profit end of the list and the profitability baseline.

Additionally, neither Berson nor Lee, considered alone or in combination, describe or suggest a method that includes generating gains charts by comparing customers included in the target group to corresponding marketing campaign results, evaluating the model combination by using structures that segment gains charts to identify where the model combination is under performing, evaluating over time and over a plurality of marketing campaigns at least one of a performance of the model combination, and identifying user defined trends including identifying trends within segments by analyzing structures of a plurality of marketing campaigns in chronological order.

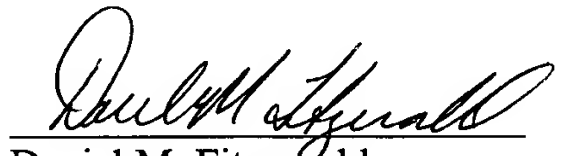
Rather, Berson describes data mining applications for customer relationship management wherein the actual data mining process includes three (3) distinct steps when performing a cross-sell analysis: (1) modeling of individual behaviors; (2) scoring data with predictive models; and

(3) optimization of the scoring matrices; and Lee describes a method for modeling expected behavior that includes segmenting a dataset, scoring the records included in the dataset using a plurality of models wherein a model scores a respective, corresponding segment, and then the results of modeling each of the data segments are fed to a results combining software. Accordingly, Applicants respectfully submit that Claim 20 is patentable over Berson in view of Lee.

For at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of Claims 1-22 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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